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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/427,114	10/26/1999	MITSURU OBARA	009683-353	2737

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EXAMINER

DECKTER, STEPHANIE M

ART UNIT

PAPER NUMBER

2183

DATE MAILED: 03/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/427,114

Applicant(s)

OBARA ET AL.

Examiner

Stephanie M. Deckter

Art Unit

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Papers Submitted

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Corrected Filing Receipt as received on 07/14/00, Information Disclosure Statement and Priority Papers as both received on 12/03/99.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Data Processing System Having a Plurality of Processors and Executing a Series of Processings in a Prescribed Order.

4. The applicant or their representatives are urged to review the specification and submit corrections for all mistakes of a grammatical, clerical, or typographical nature. **For example**, please change the word "program" to -- problem -- on page 2, line 29; the phrase "the state flag represents up to which processing" on page 6, lines 28-29 is completely unclear; please delete the words "each of" on page 10, line 1; and please insert a space between "device" and "13" on page 10, line 19.

5. The disclosure is objected to because of the following informalities: Please insert the reference numeral "(step S14)" at the end of line 11 on page 11 and "(step S23)" after "memory 14" on line 33 of page 11 in order to appropriately reference figure 10. Please correct the state

flag information “110” on page 13, lines 19 and 18 to read -- “100” -- in order to comply with figure 14. Please correct the state flag information “110” on page 15, line 14 to read -- “101” -- to comply with figure 17. Please correct the state flag information “100” to read -- “101” -- on page 15, lines 16 and 18 to further comply with figure 17.

Appropriate correction is required.

6. The abstract of the disclosure is objected to because the sentence “There are provided a plurality of processors to execute to input image data a series of processings including Log conversion, MTF correction, gamma correction and binarization in a prescribed order and a memory to store pixel data to be processed and a state flag to represent the state of processing the pixel data in association with each other” in lines 3-8 is a run-on sentence and is incomprehensible. Furthermore, it appears the word “used” should be inserted between the words “capacity” and “and” in the 3rd line of the abstract in light of lines 21 and 22 on page 3 of the specification. Correction is required. See MPEP § 608.01(b).

Drawings

7. Figures 18 and 19 should be designated by a legend such as -- Prior Art -- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

8. Claims 1 and 11 are objected to because of the following informalities: The phrase “for executing a series of processings to data to be processed” in the 2nd and 3rd lines of both claims is unclear. Please correct to read -- for executing a series of processings on data to be processed --.

Further, the phrase “data in association with each other” in the 5th line of claim 1 and 5th and 6th lines of claim 11 is unclear. Please correct to read -- data as associated with said particular state information --. Appropriate correction is required.

9. Claims 3 and 13 are objected to because of the following informalities: the phrase “execute a processing to said data to be processed” in the 2nd and 3rd lines of both claims is unclear. Please correct the phrase to read -- execute a processing on said data to be processed --. Appropriate correction is required.

10. Claims 5 and 15 are objected to because of the following informalities: The phrase “the completion of each of processings by said plurality of processors” in the 3rd line of claim 5 and the 3rd and 4th lines of claim 15 is unclear. Please correct this phrase to read -- the completion of each processing by said plurality of processors --. Appropriate correction is required.

11. Claims 6 and 16 recite the limitation “for determining the attribute of said data” in the 2nd line of both claims. There is insufficient antecedent basis for this limitation in the claim. Please correct the claim to read -- for determining an attribute of said data --.

12. Claims 8 and 18 are objected to because of the following informalities: The phrase “corresponding to one region to store said data to be processed” in the 3rd line of both claims is unclear. Please correct the claim to read -- corresponding to a single region where said data to be processed is stored --. Appropriate correction is required.

13. Claims 9 and 19 are objected to because of the following informalities: The phrase “corresponding to a plurality of regions to store said data to be processed” in the 3rd line of both claims is unclear. Please correct the claim to read -- corresponding to a plurality of regions where said data to be processed is stored --. Appropriate correction is required.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orimo et al., U.S. Patent Number 5,630,135 (herein referred to as Orimo) in view of Tanenbaum, Distributed Operating Systems, 1995 (herein referred to as Tanenbaum). Referring to claim 1, Orimo has taught a data processing system comprising:

- a. a plurality of processors for executing a series of processings on data to be processed (Orimo figure 1 and column 3, lines 57-62) in a prescribed order (Orimo column 8, lines 46-47); and
- b. a memory for storing said data to be processed and state information to represent the processing state of said data as associated with said particular state information (Orimo figure 5 and column 5, lines 1-12) wherein
- c. processings executed by said plurality of processors are asynchronously executed (Orimo column 2, lines 9-16 where the processors only rely on completion of a processing by the previous processor, not a clock signal, to determine when to execute the next processing).

Orimo has not taught the plurality of processors sharing said memory. Tanenbaum has taught shared memory between a plurality of processors (Tanenbaum page 449 section 8.3.2. Memory Sharing). Furthermore, Tanenbaum has taught on multiprocessor systems, sharing of objects

between two or more processors is essential when a single problem is being solved by a collection of cooperating processes running in parallel on different processors (Tanenbaum page 449 section 8.3.2. Memory Sharing). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a shared memory as taught by Tanenbaum to the system of Orimo to allow access by each of the plurality of processors.

16. Referring to claim 2, Orimo has taught the data processing system wherein the plurality of processors each determine if said data to be processed can be processed based on said state information (Orimo column 4, lines 4-9 and column 5, lines 27-39).

17. Referring to claim 3, Orimo has taught the data processing system wherein the plurality of processors each execute a processing on said data to be processed, and then rewrite said state information corresponding to the processed data (Orimo column 7, lines 54-56).

18. Referring to claim 4, Orimo has taught the data processing system further comprising a first controller for controlling said plurality of processors to execute said series of processings based on said state information (Orimo figure 1, element 100, column 4, lines 4-9 and column 5, lines 27-39 where each processor controls itself to execute the processings based on state information and each individual control cooperates with the control of the other processors to provide control for the entire system).

19. Referring to claim 5, Orimo has taught the data processing system wherein the first controller rewrites said state information corresponding to processed data in response to the completion of each processing by said plurality of processors (Orimo figure 1, element 100 and column 7, lines 54-56 where each processor controls itself to rewrite state information upon

completion of each processing and each individual control cooperates with the control of the other processors to provide control for the entire system).

20. Referring to claim 6, Orimo has taught the data processing system further comprising a second controller for determining an attribute of said data to be processed (Orimo column 5, lines 39-49), wherein said second controller rewrites said state information corresponding to said data to be processed in order to change the order of executing said series of processings if it is determined that said data to be processed has a prescribed attribute (Orimo column 8, lines 46-66).

21. Referring to claim 7, Orimo has taught the data processing system according to claim 6, wherein the second controller rewrites said state information corresponding to said data to be processed in order to remove a part of said series of processings, if it is determined that said data to be processed has a prescribed attribute (Orimo column 6, lines 16-43 where the process must be removed from the series of processings in order to execute).

22. Referring to claim 8, Orimo has taught the data processing system wherein said memory has one region to store said state information corresponding to a region where data to be processed is stored (Orimo figure 2, elements 201 and 205).

23. Referring to claim 9, Orimo has taught the data processing system wherein said memory has one region to store said state information corresponding to a plurality of regions where data to be processed is stored (Orimo figure 5, elements 3060 and 3063).

24. Referring to claim 10, Orimo has taught the data processing system wherein said data to be processed is image data (Orimo see abstract).

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25. Claims 11-20 do not recite limitations above the claimed invention set forth in claims 1-10 and are therefore rejected for the same reasons set forth in the rejections of claims 1-10 above.

Conclusion

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephanie M. Deckter whose telephone number is 703-308-6132. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M. with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on 703-305-9712. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Stephanie M. Deckter
Examiner
Art Unit 2183

SMD

March 13, 2002

Eddie Chan
EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.